

78. The method of claim 77, wherein the DNA molecule is formed by mutating a DNA molecule encoding the amino acid sequence of the reference protein to alter the amino acid sequence of one or more epitopes.

79. The method of claim 77, wherein the DNA molecule is formed by synthesizing a DNA molecule encoding the amino acid sequence of the selected variant, which has an altered amino acid sequence of one or more epitopes of the reference protein.

80. The method of claim 77, wherein the reference protein is an industrial enzyme.

81. The method of claim 80, wherein the enzyme is a detergent enzyme.

82. The method of claim 81, wherein the detergent enzyme is an amylase, cellulase, lipase, oxidase, or protease.

83. The method of claim 77, wherein the reference protein is a process enzyme.

84. The method of claim 83, wherein the process enzyme is an amylase, cellulase, lipase, or lyase.

85. The method of claim 77, wherein the reference protein is a medicinal protein.

86. The method of claim 85, wherein the medicinal protein is a hormone or medicinal enzyme.

87. A method for producing a DNA molecule encoding a variant of a reference protein having a known amino acid sequence, comprising

- (a) raising polyclonal antibodies against the reference protein;
- (b) mapping one or more epitopes of the reference protein with immunological and proteochemical techniques by:
 - (i) incubating the polyclonal antibodies with the reference protein or with a variant thereof; and
 - (ii) incubating the mixture from step (i) with another protein selected from the group consisting of the reference protein and variants thereof;

(c) forming a DNA molecule encoding the amino acid sequence of a selected variant, which has an altered amino acid sequence of one or more epitopes of the reference protein, wherein the selected variant evokes a lower immunogenic response in an animal than the reference protein.

88. The method of claim 87, wherein the DNA molecule is formed by mutating a DNA molecule encoding the amino acid sequence of the reference protein to alter the amino acid sequence of one or more epitopes.

89. The method of claim 87, wherein the DNA molecule is formed by synthesizing a DNA molecule encoding the amino acid sequence of the selected variant, which has an altered amino acid sequence of one or more epitopes of the reference protein.

E1 90. The method of claim 87, wherein the reference protein is an industrial enzyme.

91. The method of claim 90, wherein the enzyme is a detergent enzyme.

92. The method of claim 91, wherein the detergent enzyme is an amylase, cellulase, lipase, oxidase, or protease.

93. The method of claim 87, wherein the reference protein is a process enzyme.

94. The method of claim 93, wherein the process enzyme is an amylase, cellulase, lipase, or lyase.

95. The method of claim 87, wherein the reference protein is a medicinal protein.

96. The method of claim 95, wherein the medicinal protein is a hormone or medicinal enzyme.
